Data Sheet
Fujitsu PRIMERGY SX960 S1 Storage Blade Disk

Simple and low-priced direct-attached and shared-storage solution for PRIMERGY BX Blade Servers

PRIMERGY SX storage blades are installed together with PRIMERGY server blades in the PRIMERGY BX chassis. The introduction of storage blades is a simple and low-priced way to consolidate servers. Above all, small and medium-sized companies usually have rack and tower servers which offer a high degree of capcity regarding local hard disks. The use of storage blades equipped with tape drives is a simple and quick method to backup system data locally. Having local access to large amounts of data is often necessary, for example, in the world of computer-aided engineering (CAE), where smaller local workgroups have to access and create very large models. Examples for using storage blades are operation within limited environments as a file server or for Microsoft® SharePoint portals.

PRIMERGY SX960 S1

The Fujitsu PRIMERGY SX960 Storage Blade offers direct-attached and shared-storage for the PRIMERGY BX Blade Server with support of up to 10 hot-plug SAS or SATA hard disks. The storage blade can be inserted, like a server blade, in the front of the blade server housing. It can be hot-plugged and used with various types of server blades. The BX Blade Server midplane offers a PCI Express connection to the adjacent server blades, enabling top-quality memory access without using additional cables. The PRIMERGY SX960 Storage Blade has an onboard MegaRAID controller with 512 MB Battery Backed Write Cache, for top performance and data security.

Use NetApp Data ONTAP-vTM software to convert the PRIMERGY SX960 Storage Blade into a SAN within the PRIMERGY BX housing. The so-called PRIMERGY VSX960 is a flexible solution which provides a shared-storage drive for all other server blades in the PRIMERGY BX400. This virtual storage solution consists of a storage control blade with an installed Hypervisor plus the Data ONTAP-vTM software from NetApp and a PRIMERGY SX960 Storage Blade which provides the shared storage capacity. The PRIMERGY VSX960 is completely integrated in the ServerView Appliance and supports up to 10 hard disks in a RAID array. The ServerView Installation Manager ensures a simple installation option directly on the customer premises. The VSX storage solution supports iSCSI, CIFS and NFS protocols and supports Data ONTAP-vTM functions, such as Snapshot, FlexVol, SnapRestore and FilerView.

Features and Benefits

Main Features	Benefits
Operational diversity	
■ PRIMERGY SX960 S1 supports up to 10 hot-plug SAS or SATA hard disks with a half-height and double-wide form factor.	■ High capacity with up to 5 TB SATA HDDs, 3 TB with top-quality 2.5-inch SAS drives and up to 640 GB with power-saving 2.5-inch SATA SSDs.
Shared storage	
■ PRIMERGY VSX960 uses NetApp Data ONTAP-v software in order to convert the PRIMERGY SX960 storage blade into a SAN within the PRIMERGY BX400. ■ A flexible solution providing a shared-storage drive for all other server blades in the blade server housing.	■ The Virtual Storage Solution offers an optimal, easy-to-handle datacenter-in-the-box solution which is ideally suitable for medium-sized customers.
Fast interconnect	
■ Midplane connection via PCIe x4 interface	■ Avoidance of additional cabling due to the direct connection to Server Blade(s) via the high performance midplane, no need for additional disk controller slots in Server Blade(s)
Enhanced speed plus secure data transmission	
■ High-performance RAID controller within the storage blade, secured for RAID levels 0, 1, 5 and 6, with 512 MB cache module with ECC and with BBU.	■ The write-back cache comprehensively enhances the speed of write operations and in the event of power failures, the integrated Battery Backup Unit guarantees data integrity.

Technical details

Enclosure	
Type	Storage extension unit for BX92x and BX96x Server Blades
Number of hard disk drives	1 - 10
Storage architecture	Direct Attached Storage (DAS)
Status LEDs	Power (green) Identification (blue)
Hard disk drives	SSD SATA, 3 Gb/s, 64 GB, SLC, hot-plug, 2.5-inch, enterprise
	SSD SATA, 3 Gb/s, 32 GB, SLC, hot-plug, 2.5-inch, enterprise
	HDD SATA, 3 Gb/s, 500 GB, 7200 rpm, hot-plug, 2.5-inch, business critical
	HDD SATA, 3 Gb/s, 320 GB, 5400 rpm, hot-plug, 2.5-inch, economic
	HDD SATA, 3 Gb/s, 160 GB, 7200 rpm, hot-plug, 2.5-inch, business critical
	HDD SATA, 3 Gb/s, 160 GB, 5400 rpm, hot-plug, 2.5-inch, economic
	HDD SAS, 6 Gb/s, 300 GB, 10000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6 Gb/s, 146 GB, 15000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6 Gb/s, 146 GB, 10000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 6 Gb/s, 73 GB, 15000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 3 Gb/s, 300 GB, 10000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 3 Gb/s, 146 GB, 15000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 3 Gb/s, 146 GB, 10000 rpm, hot-plug, 2.5-inch, enterprise
	HDD SAS, 3 Gb/s, 73 GB, 15000 rpm, hot-plug, 2.5-inch, enterprise
RAID Controller	Integrated RAID 5/6 Ctrl., HDD SAS 6 Gb, Fujitsu , 8 ports int. RAID level: 0, 1, 10, 5, 50, 6, 60, 512 MB Cache, optional BBU (based on LSI SAS2108)
Dimensions / Weight	
Dimensions (W x D x H)	90 x 508 x 204 (chassis height 210,5) mm
Weight	max. 8 kg (fully equipped)
Weight notes	Actual weight may vary depending on configuration
Environmental	
Temperature note	In accordance with the corresponding PRIMERGY BX400 system unit
Operating environment	FTS 04230 – Guideline for Data Center (installation locations)
Operating environment Link	http://docs.ts.fujitsu.com/dl.aspx?id=e4813edf-4a27-461a-8184-983092c12dbe
Power supply configuration	
Active power (min. configuration)	70 W
Active power (max. configuration)	110 W
Heat emission	396.0 kJ/h (375.3 BTU/h)
Compliance	
Germany	GS
Europe	CE Class A *
USA/Canada	CSA us CSA c
Global	CB RoHS (Restriction of hazardous substances) WEEE (Waste electrical and electronical equipment)
Japan	VCCI
Taiwan	BSMI

Compliance

Compliance notes	In combination with corresponding PRIMERGY BX system unit There is general compliance with the safety requirements of all European countries and North America. National approvals required in order to satisfy statutory regulations or for other reasons can be applied for on request. * Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.
Compliance link	https://sp.ts.fujitsu.com/sites/certificates/default.aspx

More information

Fujitsu platform solutions

In addition to Fujitsu PRIMERGY SX960 S1, Fujitsu provides a range of platform solutions. They combine reliable Fujitsu products with the best in services, know-how and worldwide partnerships.

Dynamic Infrastructures
With the Fujitsu Dynamic Infrastructures approach, Fujitsu offers a full portfolio of IT products, solutions and services, ranging from clients to datacenter solutions, Managed Infrastructure and Infrastructure as-a-Service. How much you benefit from Fujitsu technologies and services depends on the level of cooperation you choose. This takes IT flexibility and efficiency to the next level.

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More information

Learn more about Fujitsu PRIMERGY SX960 S1, please contact your Fujitsu sales representative or Fujitsu Business partner, or visit our website.
http://ts.fujitsu.com/Primergy

Fujitsu green policy innovation

Fujitsu Green Policy Innovation is our worldwide project for reducing burdens on the environment.
Using our global know-how, we aim to resolve issues of environmental energy efficiency through IT.
Please find further information at http://www.fujitsu.com/global/about/environment/

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